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TITLE: Sanding Attachment for a Reciprocating Power Tool

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BACKGROUND OF THE INVENTION

1. Field of the Invention

The invention generally relates to an accessory for a power tool, and in particular relates to a sanding attachment for a reciprocating power tool.

2. Description of the Related Art

Reciprocating power tools are utilized for performing tasks wherein rapid back-and-forth motion of an attachment, such as a saw blade, is required. By way of example, a Sawzall reciprocating saw is utilized for rapidly and efficiently cutting wood and other construction

materials. Many existing reciprocating tools are not furnished with sanding attachments for abrading a rough surface of an existing object, or if they are so furnished, the attachment provided is not suitably configured to rapidly and efficiently abrade rough surfaces. Accordingly, there is a need for a sanding attachment which is selectively and easily attachable to an existing reciprocating power tool, comprising an elongated strip having two bends, said bends provided so that the attachment end is perpendicular to the sanding end, thereby providing a sanding attachment which is suitably configured to rapidly and efficiently abrade a rough surface of an existing object, particularly when the surface of the object is substantially horizontal.

A variety of reciprocating tools, and sanding attachments for these tools, are available. For example, United States Patent No. 5,658,193 to McCambridge appears to show a reciprocating tool having a plurality of working attachments for performing tasks involving reciprocating motion, such as sanding, grinding, sawing, cutting, and polishing. Moreover, United States Patent No. 5,484,328 to Osterman appears to show a sanding tool for use in conjunction with an electric motor, for sanding, polishing, and finishing an arcuate shaped workpiece.

Furthermore, United States Patent No. 5,022,189 to Saul appears to show a sander extension device for attachment to an oscillating or vibrating sander, for sanding convex or concave surfaces, having a flexible metallic strip to which a

strip of sandpaper is detachably secured, wherein the metallic strip is capable of being manually guided to conform to the desired contours of the article being sanded.

Additionally, United States Patent No. 6,129,617 to Adams

5 appears to show an abrasive sanding attachment for a reciprocating saw, capable of being fitted and mounted in a blade holder of a scroll saw. In addition, United States Patent No. 5,707,276 to Holko et al appears to show an abrader blade with slidable depth control wings for limiting

10 the extent of abrasion. Also, United States Patent No. D296,980 to Chaconas appears to show an ornamental design for a tip for a saw blade.

While these devices may be suitable for the particular purpose employed, or for general use, they would not be as
15 suitable for the purposes of the present invention as disclosed hereafter.

SUMMARY OF THE INVENTION

It is an object of the invention to provide a sanding attachment which is readily attachable to an existing power tool such as a Sawzall reciprocating saw. Accordingly, the elongated sanding attachment has an attachment end having a tab extending axially therefrom, said tab having a U-shaped slot for selective attachment to a coupling end of the power tool.

It is another object of the invention to provide a sanding attachment for smoothing a rough surface of an existing object. Accordingly, the sanding attachment has a sanding end having a bottom surface having a sanding strip attached thereunto. Upon activation of the reciprocating tool, and pressing of the sanding strip against the surface to be smoothed, the sanding strip rapidly moves back and forth against the surface to be abraded, and thereby efficiently smoothes the rough surface of the existing object.

It is yet another object of the invention to provide a sanding attachment suitably configured for efficiently sanding a substantially horizontal surface. Accordingly, the attachment end is at right angles to the sanding end. After the attachment end is selectively attached to the coupling end of the tool, and the tool is held within the hand or hands of the user in the usual manner, the sanding end is substantially horizontal, thereby allowing the sanding

attachment to efficiently abrade the existing substantially horizontal surface.

It is an additional object of the invention to provide a sanding attachment which is suitable for sanding the surfaces
5 of a variety of differently shaped objects. Accordingly, the sanding attachment is provided in a variety of shapes and sizes, in order that it may be suitably used for sanding a wide variety of surfaces.

It is a further object of the invention to provide a
10 sanding attachment which is rugged and will not become damaged or deformed even after repeated use. Accordingly, the sanding attachment is fashioned from a strip of durable, resilient metal, and will not become damaged or deformed even after repeated use.

15 It is yet another object of the invention to provide a sanding attachment which is not unduly expensive. Accordingly, the sanding attachment is constructed from readily available materials, and its cost is not prohibitive.

The invention is a sanding attachment, for use in
20 conjunction with an existing reciprocating power tool, for sanding a rough surface of an existing object. The sanding attachment comprises an elongated strip of metal having an attachment end for selective attachment to the power tool, and a sanding end for abrading and smoothing the rough
25 surface of the existing object. The bottom surface of the sanding end has a sanding strip comprised of a substantially rectangular, flat piece of metal having a plurality of raised

protuberances capable of efficiently sanding an object. The sanding attachment has two bends, which results in the attachment end and the sanding end being substantially mutually perpendicular to one another. After the sanding attachment has been selectively attached to the power tool, and the power tool is held within the hands of the user in the usual fashion, the sanding attachment is suitably positioned for efficiently sanding a substantially horizontal surface.

To the accomplishment of the above and related objects the invention may be embodied in the form illustrated in the accompanying drawings. Attention is called to the fact, however, that the drawings are illustrative only. Variations are contemplated as being part of the invention, limited only by the scope of the claims.

BRIEF DESCRIPTION OF THE DRAWINGS

In the drawings, like elements are depicted by like reference numerals. The drawings are briefly described as follows.

FIG 1 is a perspective view of a sanding attachment.

FIG 2 is a perspective view of the sanding attachment, as in FIG 1, except viewed from a different angle.

FIG 3 is a perspective view of the sanding attachment, after it has been selectively attached to an existing reciprocating power tool.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

FIG 1 illustrates a sanding attachment 10, for use in conjunction with an existing reciprocating power tool, for sanding rough surfaces of an existing object. The sanding attachment 10 comprises an elongated, substantially rectangular strip 12 of metal having a top surface 12T, a bottom surface 12B, an attachment end 12A for selective attachment to the power tool, and a sanding end 12S for abrading and smoothing a rough surface. In this regard, the bottom surface 12B of the sanding end 12S has a sanding strip 12P comprised of a substantially rectangular, flat piece of metal having a sanding surface. The sanding surface has a plurality of small, raised protuberances for rapidly and efficiently abrading a rough surface when the sanding attachment 10 is being deployed.

The strip 12 has two bends, namely a first bend 14 more proximal to the attachment end 12A than to the sanding end 12S, and a second bend 16 more proximal to the sanding end 12S than to the attachment end 12A. The net result of the two bends, 14 and 16, is that the attachment end 12A and the sanding end 12S are substantially mutually perpendicular to one another. After the sanding attachment 10 has been selectively attached to a reciprocating power tool, and the power tool is held within the hand or hands of the user in the usual fashion, the sanding attachment 10 is suitably positioned for efficiently sanding a substantially horizontal

surface. Additionally contemplated is a sanding attachment 10 having two bends, 14 and 16, wherein the angle of curvature of the bends results in the attachment end 12A being substantially offset from the sanding end 12S, although
5 not quite perpendicular to the sanding end 12S.

FIG 2 illustrates the sanding attachment 10, as in FIG 1, except viewed from a different angle.

The existing power tool has a coupling end, into which a variety of different attachments may be selectively fitted.
10 The attachment end 12A of the sanding attachment 10 has a tab 18 extending axially therefrom, said tab 18 having a U-shaped slot 20 for selectively engaging the coupling end of the power tool.

FIG 3 illustrates the sanding attachment 10 after it has
15 been selectively attached to the coupling end 32 of the reciprocating power tool 30. The sanding end 12S is substantially horizontal.

Returning to FIG 1, the sanding end 12S has two opposing corners 12C, each of which are rounded so as to prevent
20 accidental injury to the user while the sanding attachment 10 is being deployed in conjunction with the power tool.

The sanding attachment 10 is provided in a variety of shapes and sizes, in order that it may be suitably used for sanding a wide variety of surfaces. A sanding attachment 10
25 having a tapered sanding end 12S is contemplated, in order to permit the sanding end 12S to be used for sanding a relatively inaccessible surface. The sanding attachment 10

is constructed of a durable resilient metal such as stainless steel, which will not crack even after repeated used. The sanding strip 12P is likewise constructed of a durable metal, and is rigidly affixed to the bottom surface 12B of the sanding end 12S by any one of a number of existing methods, including welding, the use of screws or rivets, and the like. As illustrated, the sanding attachment 10 has two bends, 14 and 16. However, an embodiment having a single bend is also contemplated, said bend having an angle of curvature sufficient to ensure that the sanding end 12S is substantially perpendicular to the attachment end 12A, thereby ensuring maximally efficient sanding of a horizontal surface of the object to be sanded. Although, as described, the sanding attachment 10 is utilized for sanding a rough surface, a variety of strips 12P are provided with the sanding attachment 10, some of which are capable of grinding, buffing, or polishing an existing object. Although, as described, the sanding attachment 10 has a tab 18 having a U-shaped slot 20 for selective attachment to the coupling end of an existing power tool, a variety of differently configured attachment ends 12A are contemplated, for selective attachment to power tools having coupling ends which are alternately configured.

In use, the sanding attachment 10 is selectively attached by a user to the coupling end of an existing reciprocating power tool, such as a Sawzall reciprocating saw. The user holds the power tool in one or both hands of

the user and activates the power tool, thereby causing the sanding attachment 10 to move back-and-forth rapidly in an axial direction. The user presses the sanding strip 12P on the bottom surface 12B of the sanding attachment 10 onto an
5 existing surface which is to be sanded, thereby causing the abrasive surface of the sanding strip 12P to rapidly abrade the rough surface. When the surface has been suitably smoothed by the sanding attachment 10, the user turns of the power tool. The sanding attachment 10 may be removed from
10 the coupling end of the power tool, and stored until once again needed.

In conclusion, herein is presented a sanding attachment for use in conjunction with an existing reciprocating power tool. The invention is illustrated by example in the drawing
15 figures, and throughout the written description. It should be understood that numerous variations are possible, while adhering to the inventive concept. Such variations are contemplated as being a part of the present invention.